in something more than the name; who will hold no longer to the hope of becoming parasites on the body politic. And this new group will recognize in the repeal of the excess profits and income surtaxes and in the enactment of a simple, sane and just sales tax law the opportunity for each and all to bear their full share of the national tax burden—and no more.

The Incidence of a Sales Tax

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A SALES tax may take any one of several forms. It may be an inclusive sales tax, that is, a tax levied upon every sale or transaction. Or it may be limited to the exchanges of any one of several classes of transactions. For example, the sales of commodities, or the sales by manufacturers and wholesalers, or the sales by retailers. A tax such as the present theatre tax is a sales tax, but when a sales tax is narrowly limited to some one good or narrow class of goods, it is customary not to call it a sales tax but rather to designate it by the name of the good or service taxed. An extended analysis would be necessary in order to reach a conclusion as to the kind of sales tax, if any, that it would be advisable for us to adopt at the present time. It is the purpose of this paper to consider only one phase of sales taxation; namely, the incidence of a sales tax.

INCIDENCE UNDER COMPETITION

Let us assume, first, that the tax is levied upon the sales of goods that are produced under competition. What will be the incidence of such a tax? The answer must be divided into three parts depending upon whether the goods are produced under conditions of increasing expense of production, or under constant expense, or under decreasing expense. That is, upon whether, as output is increased, the expense of producing the successive units involves more expense, similar expense, or less expense than was incurred for the preceding units.

Taking the first case, that of a good produced at increasing expense under competition, the conclusion is that the price of the good will be increased because of the tax but by less than the amount of the tax. The burden of the tax will be divided between the buyers and the producers (the sellers) of the good in question. The analysis is as follows: Under competition the market price of a good is set at the point that will clear the market. Any point above this will decrease sales and leave goods unsold. Any point below this will stimulate bidding for the good, and raise the price. But, aside from the competitive bidding of buyers, price will not tend to fall below the point at which the goods on the market will be taken, because it is not to the interest of the sellers to underbid each other below the point at which all can sell. With the price set at such a point, the point that will just clear the market, the imposition of a tax will, if any part of it is added to the price, reduce buying and leave goods unsold. What then will sellers do, who in the case we are considering are producers? Will they bear the tax? Under competition, the production of a good which is produced at increasing expense will be extended to a point at which the price received just equals

the expense of producing the final unit. To stop short of this point will be unprofitable to the producer. If he can produce another unit or another hundred or thousand units at a cost of ninety-five cents, including necessary profit, and sell at a dollar, the tendency will be for him to do so. If a further addition to the output will cost ninety-seven cents and sell for ninety-eight, its production will be undertaken. Further, new undertakings of the production of the good in question will be encouraged until one is included whose cost is equal to price.

There will, then, in the case of a good produced at increasing expense under competition, be an increment of product, the cost of which will just be covered by the price received. Hence if a tax be levied upon every unit sold, output and price can not remain as before without forcing the producer to incur a loss. This he will refuse to bear. He will give up the production of the most expensive units. As a result of this reduction in the supply, price will rise, as buyers will bid price up or, what amounts to the same thing, sellers will pitch the price at a new point that will clear the market of the reduced supply.

The price will not, however, tend to rise by the full amount of the tax. Its location above the old price and below the former price plus the tax, will depend upon the elasticity of the demand and the elasticity of the supply. If the demand is highly elastic, that is, if the amount taken will be markedly reduced as the price increases, and if the supply is relatively inelastic, that is, if the expense per unit will fall but little as supply is decreased, the new price will rise but little as compared with what its increase would be if the demand were relatively elastic and the supply relatively inelastic. Obviously, the greater the price increase the greater the burden on the purchaser and the less the burden on the producer.

This conclusion is in no way dependent upon whether the tax is collected from the buyer or the seller. If the buyer pays it to the government, demand is reduced and the seller is affected as indicated; if the seller remits to the government, he increases the price, and demand is similarly affected. The net amount received by the seller, the total paid out by the buyer, the amount received by the government, and the volume of output and sales tend to be identical in either case.

Turning to the second possible case, that of a competitive good produced under conditions of constant expense, the conclusion is that the entire burden of the tax falls upon the buyer. The price of such a good will rise by the amount of the sales tax. The analysis is simple. All the units of such a good are produced at uniform cost. Competition among producers will not permit price to be above cost, including necessary profit, and production will not go on at a price below cost. The amount of production will be adjusted so that the market will be cleared at a price corresponding to the cost of production. The imposition of a sales tax will be tantamount to an increase in the cost of production per unit by the amount of the tax. Price will be increased correspondingly. If price is not increased by the amount of the tax, producers will lose on every unit produced. Competition among producers will not permit price to rise by more than the amount of the tax. The increase in price will tend to equal the tax.

In the third case, that of a good produced under competition, the expense of which decreases as successive units are produced, the conclusion is that the price will rise by more than the amount

of the tax. The analysis is as follows: In the case of such a good, price is set that will just clear the market and return an amount equal to the average cost of production per unit to the producers. In case of a good produced at increasing expense, the price that is set must be sufficient to cover the cost of the increment of the supply that is produced at the greatest expense. But in the case of a good produced at decreasing expense, the price must be higher than the figure which represents the cost of the unit which is last added to the supply; for this unit involves a less cost than the units whose production preceded it, and, to set the price at a point equal to the cost of the last unit, would mean that the producer would sustain a loss on every other unit.

The lowest point that will enable the producer to continue in business is a point which represents the average cost of the various units that make up the output. Competition between producers will not drive price below this point in the long run, but it will tend to hold it down to this point. With this price being just low enough to clear the market, any addition to the price will result in goods remaining unsold. This will necessitate a curtailment in production. The curtailment in production will involve higher costs than were involved by the larger volume of production. Adding the tax as a cost will thus result in the price of the good in question rising above the figure represented by the former price plus the tax. The burden upon the consumer will hence be greater than the amount of the tax.

The analysis above has depended upon the assumption that there is keen competition between producers on the one hand and buyers on the other. Is this assumption sound? That is, do men in their economic activity seek to secure the maximum economic advantage? There are certainly many motives to conduct other than the economic motive. Many persons sacrifice economic gain to the realization of other ends. This occurs mainly in the rendering (or selling) of personal service. In order to do certain tasks, to work in certain places, or to be free from certain conditions many persons do not secure the maximum economic gain.

The professional trader and the manager of a modern industrial enterprise, however, are in their business dealings primarily "economic men." Within the field of economic activity the motives to conduct other than the desire to secure economic goods are with these persons usually realized only through economic gain. The amassing of profits is to these men what the painting of a picture is to an artist. It is the test of success. It is safe to assume that such men are in active competition with each other and are actively watching for advantage with those to whom they sell or from whom they buy. Further, practically all persons in their buying are "economic men." However much one may forego his economic advantage in his work, he usually is quick to buy where he can buy the cheapest. Habit and inertia hold many consumers to lines of expenditure that it would be economical to abandon; but for the most part the consumer attempts to spend his money so that he will get the maximum value. If this be true, then the conclusion reached above in regard to the incidence of a sales tax levied on the sales of goods produced under competitive conditions must be sound.

INCIDENCE UNDER MONOPOLY

What will be the incidence of the sales tax in the case of a good produced under monopoly? The monopolist

tends to set a price that will yield the largest net profits. A tax upon monopoly profits will accordingly not affect the price of the good. Neither will the imposition of a tax of a given fixed sum upon a monopoly alter the price of the monopolized good. In both of these cases, since price is already set to yield the largest possible net profit, a larger sum will be left after the tax has been paid than if the price were altered. But if a tax is levied upon the output of a monopolist, price may be affected. Such a tax will become part of the cost of production of each unit of output, and in view of the demand for the good the greatest profit may now be realized at some other price. The monopolist's decision will be dependent upon the elasticity of the demand and the elasticity of the supply. It may be that the number of articles that would be purchased at a higher price will be much less and the cost per unit of producing fewer units so much more, if it is a good produced at decreasing expense, that less will be sacrificed by bearing the tax than by shifting it. The same might be true if the good is produced at increasing expense. Reduction in output might reduce cost per unit so little and raise price so little that the monopolist would not profit by reducing the supply and raising the price. However, the relative elasticity of the demand and supply may make it profitable for the monopolist to shift the tax either in whole or in part.

It may be argued that, if the tax is inclusive, the entire burden of the tax must fall upon producers, due to the fact that since all lines are taxed, capital and labor will not be withdrawn from any line and consequently price will not rise. The argument would perhaps allow for some shifting from lines where the demand is relatively elastic to lines where the demand is relatively inelastic. It must be remembered, however, that the tax receipts are spent. The expenditure by the government will lead to the transference of some labor and capital from the taxed fields to the lines of government expenditure. This will reduce output and raise prices, thus throwing the burden of the tax upon consumers, wholly or in part according to the kind of good consumed.

A Substitute for the Excess Profits Tax

But if the tax is substituted for some other tax, the effect upon the consuming public will depend upon whether the tax for which the sales tax is a substitute is being borne by the general body of consumers or by a limited group. If the former, even though the incidence of the sales tax might be said to be in considerable part upon consumers, yet they would be no worse off than before. In fact the tax might be such an improvement in other ways over the former tax that consumers would gain. If the latter, the incidence of the sales would clearly tend to be upon the consumers.

The sales tax is proposed as a substitute for the excess profits tax and for part of the receipts from the upper reaches of the income tax. It is insisted that the incidence of these taxes is upon consumers; that prices have been considerably increased because of them. This has been urged especially in regard to the excess profits tax. Is this true? As suggested in the earlier part of this analysis a tax is shifted only by a rise in price and this can come about as a result of the tax only through a restriction in supply. Supply will not be curtailed so long as production is not rendered unprofitable. Certainly the excess profits tax has not driven producers from the

field. The amount that has remained after the payment of the tax has been more than sufficient to induce enterprise.

This reasoning is amply supported by facts. As Professor Friday shows in his *Profits, Wages and Prices*, the price level began to rise in July 1915. In October 1917, when the excess profits tax law was passed, the price level stood at 181 as compared with 100 for 1913. For the year 1918 the excess profits tax rates were increased; in 1919, they were materially reduced. Prices continued to rise all during this period, the level being 238 in December 1919, and 266 in April 1920. Furthermore, the recent fall in prices was not preceded by any change in excess profits tax rates. Clearly there is no correlation between the price movements of the past five years and excess profits taxation. And similarly the income tax rates have left sufficient in the hands of the taxpayer to induce enterprise.

The income and excess profits taxation has influenced prices, if at all, by preventing extensions of plants that would otherwise have been made. Rather than accumulate profits to be shared with the government, expenditures have been made which, except for the reduction in the tax payment, would have been uneconomical. Without the tax such sums would have been used, in part, at least, for plant extension. But on the other hand, the excess profits tax has operated to encourage the extension of enterprise. The law has allowed an exemption of eight per cent upon capital investment. By reducing the tax payment, this has in certain cases made investments profitable that would otherwise have been unprofitable. Perhaps also the failure of the larger and more prosperous firms to make extensions due to their heavy tax payments has given encouragement to small producers to make extensions that they would not have made if the larger firms had expanded their business.

The substitution of the sales tax for these two taxes would tend to transfer the tax burden from the richer classes to the poorer classes. The consumers among the rich would, to be sure, bear their share of the sales tax, but this would be to them a substitute for the tax payments previously made. The burden upon the poorer classes would be a new burden. This would be somewhat alleviated by the capital addition which may be expected to follow this change in taxation. The sum that a sales tax would take from this group is now to a large degree being spent for consumption goods rather than being invested. And to leave with the richer classes money that is now being paid in taxes, would mean that it would be invested rather than used to still further increase the consumption of this group. The increase in savings from such a change in taxation would operate to reduce interest rates. Interest rates would also tend to fall because of the reduction in the demand for consumption goods as a consequence of the sales tax. The decline in the interest rates and the extension of investments would both operate to reduce the price of goods. The burden of the sales tax would thus in part be made up to the poorer classes, but only in part. It can not be expected that it would be to the advantage of any family or group of families to give to another family or group of families a sum of money even on condition that it be invested in the particular lines of industry in which the goods that the donors are accustomed to purchase are produced. The advantage of the transfer would necessarily lie with the recipients.

This is the crux of the question of sales taxation as a substitute for the present forms of national taxation. Is it desirable to transfer the tax burdens from the richer classes to the poorer classes? By curtailing the investments now being made by the poorer classes, small as they are, and by augmenting the investments of the rich, the ownership of the wealth of the country will be shifted still more into the hands of a relatively small part of the population.

Is this desirable, even if it means an increase in capital investment? There is already marked inequality in the ownership of wealth. Professor W. I. King estimated that in 1910 two per cent of the people of the United States owned approximately sixty per cent of the wealth of the country.

And further, is it desirable to diminish the consumption power and thereby reduce the standard of living of the poorer classes?

Summary

The incidence of a sales tax would be upon both producers and consumers. In the case of an article produced under competition at increasing expense per unit of output, as tends to be true of agricultural and mineral products, the tendency would be for the price to rise, but to increase by less than the amount of the tax. If the expense per unit is uniform regardless of quantity of output, which is true of but relatively few articles, the sales tax would tend to increase price by the amount of the tax. If the expense per unit of product decreases as output increases, as is generally true in manufacturing or selling, a sales tax would tend to increase the price by more than the amount of the tax. The incidence of a tax upon the sales of a monopolist would be upon the consumer, in part, at least. The excess profits tax and the income tax are not now borne by the consumer. The substitution of a sales tax for the excess profits tax and its substitution for the higher reaches of the income tax would thus cause the poorer classes in their purchases to bear part of the tax burden now being borne by the richer classes. This would tend to decrease the standard of living of the poorer classes and to increase the concentration of wealth.

The General Sales Tax Is Not the Way Out

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CONSUMPTION taxes and other miscellaneous excise taxes must be relied upon to furnish a reasonable proportion of the vast sums needed as post-war revenues of the United States. A billion dollars sufficed for the fiscal year 1917; for current years, expenditures and necessary debt reduction can scarcely be taken care of with four billion.[1] To place the bulk of the revenue burden upon consumption, through the instrumentality of the widely urged general sales tax would,

[1] The Annual Report of the Secretary of the Treasury, submitted to Congress in December, 1920, indicates that the ordinary expenditure for the fiscal year ending June 30, 1921, will be as much as $4,851,298,931 and that the corresponding figure for the fiscal year ending June 30, 1922, will be $3,897,419,227. These figures are not inclusive of any amounts for reduction of the public debt, and are based in the main upon estimates. Through the action of Congress the actual expenditures may be reduced below these estimates. It does not seem possible, however, that expenditures for this year or next year can be reduced much below four billion.